THE SECOND REPORT
OF THE
JOINT STEERING COMMITTEE
ON HAZARDOUS SUBSTANCES IN THE WORKPLACE
APRIL 1, 1990 TO MARCH 31, 1991

Ontario
Ministry of
Labour

Occupational
Health and Safety
Division

ERRATUM

The Second Report of the Joint Steering Committee contained an error in pagination.

The existing page 26 should be read as page 28; the text follows on directly from that at the bottom of page 27.

Page 26 should have been a blank page.

We apologize for any inconvenience this error may have caused.

TABLE OF CONTENTS

Additional copies of this Report are available from the Regulation Development Unit, Health and Safety Policy Branch, Telephone Number (416) 326-7924.

ISSN 1183-0549

JOINT STEERING COMMITTEE ON HAZARDOUS SUBSTANCES IN THE WORKPLACE

MEMBERS

Ms. Noelle Andrews
Ontario Nurses' Association

Mr. John Blogg
Ontario Mining Association

*Mr. Peter T. Budzik**
Peter T. Budzik & Associates Incorporated

Mr. Norm Carriere
United Steelworkers of America

*Mr. Doug Cook*****
Canadian Chemical Producers' Association

Mr. Bob DeMatteo
Ontario Public Service Employees Union

Mr. Karl Doerwald (Vice-chair)
Canadian Manufacturers' Association

Mr. Joe Duffy
The Provincial Building and Construction Trades Council of Ontario

*Ms. Marilyn Eaman*****
Canadian Federation of Independent Business

*Mr. David Frame**
Council of Ontario Construction Associations

*Mr. Don Haycock***
Conestoga-Rovers & Associates Ltd.

Ms. Linda Jolley (Vice-chair)
Ontario Federation of Labour

Mr. Colin Lambert
Canadian Union of Public Employees

Mr. John Lang
Confederation of Canadian Unions

Ms. Julia McIlraith
Ontario Hospital Association

Mr. Tim Millard (Chair)
Ontario Ministry of Labour

*Ms. Kim Perrotta***
United Electrical, Radio and Machine Workers of Canada

Mr. Dennis Philips
The Canadian Conference of Teamsters

Ms. Mary Roy
CCL Industries Inc.

*Mr. Dan Ublansky*****
Energy and Chemical Workers Union

*Mr. Glenn Weston****
Stelco Inc.

Mr. Bill Williams
Region of Peel Human Resources

* resigned 1990
** resigned 1991
*** appointed 1990
**** appointed 1991

ALTERNATES

Mr. Chris Anderson
Dofasco Inc.

Mr. Rick Briggs
Canadian Union of Mine, Mill and Smelter Workers

*Ms. Cathi Carr***
Ontario Nurses' Association

*Mr. Bob Chernecki*****
Canadian Auto Workers Union

*Mr. Vern Edwards*****
United Electrical Radio and Machine Workers of Canada

*Mr. David Frame****
Council of Ontario Construction Associations

*Ms. Joy McGuire****
Corporation of the City of Toronto

Mr. Georges Michaud
Northern Telecom Electronics Ltd.

*Ms. Mary Morison*****
Ontario Federation of Labour

Mr. Richard Murry
Canadian Paint and Coatings Association

Mr. James Phelan
The Canadian Conference of Teamsters

*Mr. Cliff Robinson****
Ontario Hydro

*Mr. David Shane*****
Canadian Federation of Independent Business

Mr. Rick Sheppard
Conestoga-Rovers & Associates Ltd.

*Ms. Carolyn Shushelski***
Ontario Hospital Association

*Ms. Mary D. Smith*****
Human Resources Professional Association of Ontario

Mr. Bill Sparks
Polysar Rubber Corporation

*Mr. Dan Ublansky***
Energy and Chemical Workers Union

** resigned 1991
*** appointed 1990
**** appointed 1991

TECHNICAL CONSULTANTS

Mr. John Murphy
Technical Consultant, Employer Coordinating Group

Ms. Jennifer Penney
Technical and Administrative Associate, Labour Caucus

SECRETARY

Mr. John Wilson
Ministry of Labour

CLERICAL AND ADMINISTRATIVE SUPPORT

Ms. Joan Osborne
Ministry of Labour

INTRODUCTION

In November 1987, the Minister of Labour established the Joint Steering Committee on Hazardous Substances in the Workplace. The Committee, which consists of an equal number of labour and employer representatives, was established to develop and review regulations designed to control worker exposure to hazardous substances.

The Joint Steering Committee is a bipartite committee, consisting of nine employer representatives and nine representatives of organized labour and at the request of the parties, is chaired by the Assistant Deputy Minister of the Ministry of Labour's Occupational Health and Safety Division.

The Joint Steering Committee's mandate is to develop and review regulations made under the *Occupational Health and Safety Act* that serve to control worker exposure to hazardous substances in Ontario workplaces. This involves achieving consensus on matters such as: determining priorities for substances to be regulated; developing a process for updating the Regulation respecting Control of Exposure to Biological or Chemical Agents (O. Reg. 654/86); and examining new approaches to the regulation of toxic substances. The Joint Steering Committee submits its decisions to the Minister of Labour for consideration. The Minister is expected to act on the consensus decisions of the Joint Steering Committee. Should the Minister not accept a consensus recommendation of the Joint Steering Committee, the Committee will receive a full explanation within a reasonable time.

In its first two years, the Joint Steering Committee reviewed the existing consultative process for the development of hazardous substance regulations. A more effective process, illustrated in Figure 1, was developed in March 1988.

The Joint Steering Committee also published a brochure entitled "It's a Tough Job but Somebody's Got to Do It", describing the Committee, its purpose and how people can participate in regulation development. The brochure was sent to all joint health and safety committees in Ontario.

To facilitate the work of the Joint Steering Committee, the Ministry provided funds for researchers/analysts for each of the employer and labour groups.

In order to maintain the broadest representation of employers, the employer group established the Employer Coordinating Group (ECG) representing some 36 major employer associations. The ECG meets regularly to formulate an employer position and to build employer consensus on issues pertinent to the Joint Steering Committee.

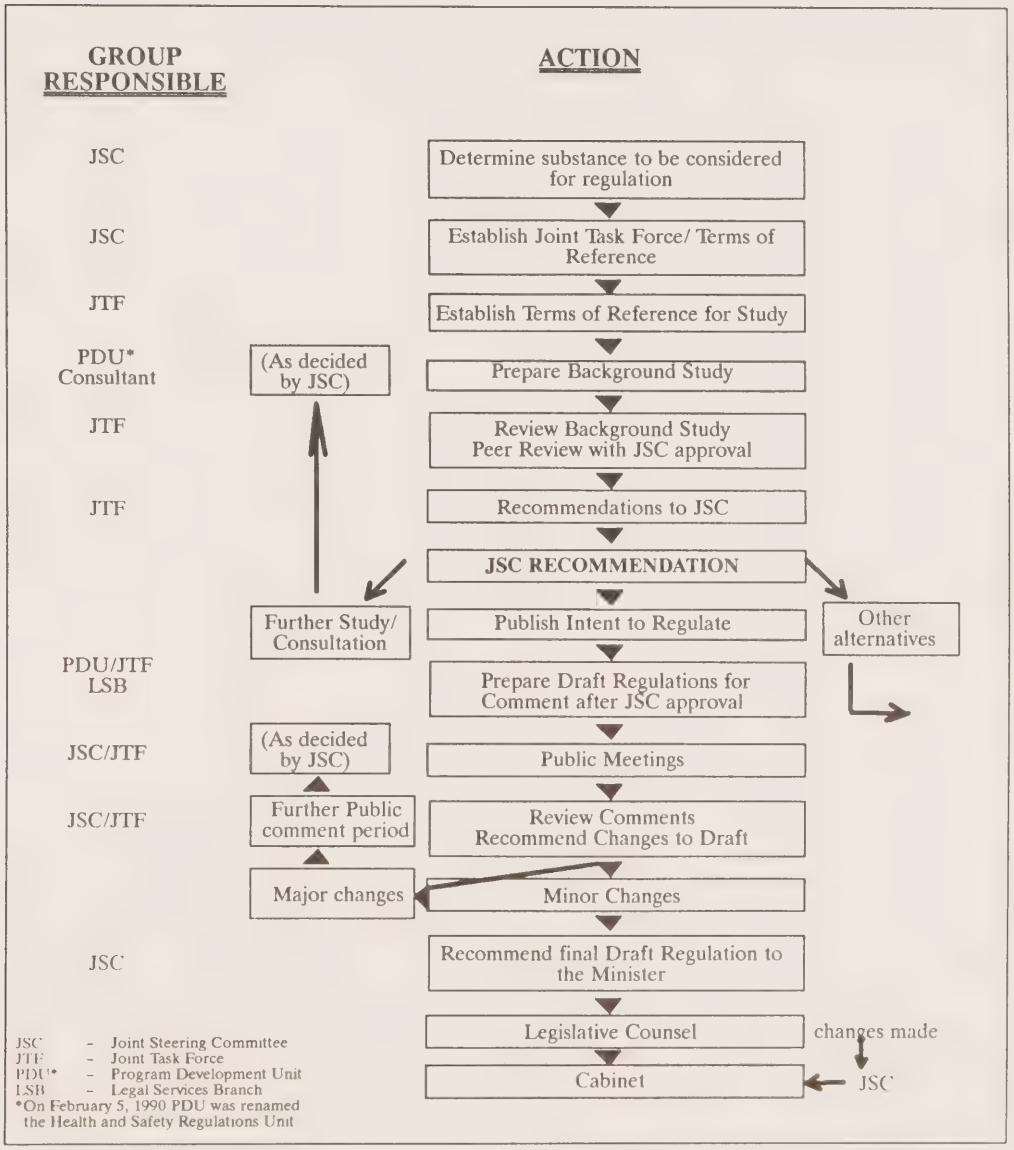
The Labour members of the Joint Steering Committee also ensure that they represent the interests of their members. Each major affiliate of the Ontario Federation of Labour (OFL) is represented by a representative appointed by his or her union who sits on the OFL Health and Safety Committee. Those members representing non–OFL affiliate unions consult with senior officials in their respective unions and participate in regular meetings of the Labour Caucus of the Joint Steering Committee.

The Joint Steering Committee has established three joint task forces designed to achieve consensus on fundamental issues related to setting standards and developing regulations for hazardous substances. These are the Regulatory Framework and Classification Task Force, the Exposure Values and Limits Task Force, and the Biomedical Surveillance Task Force (See Appendix A for the members of the Task Forces).

This report, which is the second annual report of the Joint Steering Committee, gives an account of the Committee's activities and achievements from April 1, 1990 to March 31, 1991.

FIGURE I

JOINT STEERING COMMITTEE ON HAZARDOUS SUBSTANCES REGULATION DEVELOPMENT PROCESS
REVISED



THE REPORT

From April 1, 1990 to March 31, 1991 the Joint Steering Committee met on nine occasions. During the year the Committee:

- monitored the ongoing activities of each Task Force;
- ratified three reports which were presented to the Committee for approval by the Exposure Limits and Values Task Force;
- attempted to resolve three issues over which the Regulatory Framework and Classification Task Force had reached an impasse (see page 7 for details). These issues could not be resolved by the Committee and were forwarded to the Minister of Labour for resolution;
- requested that a full–time, five person secretariat, devoted to the work of the Joint Steering Committee and its Task Forces be established and funded by the Ministry for the year 1991 — 1992; and
- requested and received approval for the Ministry to provide additional funds for the services of employer and labour technical consultants.

Regulatory Framework and Classification Task Force

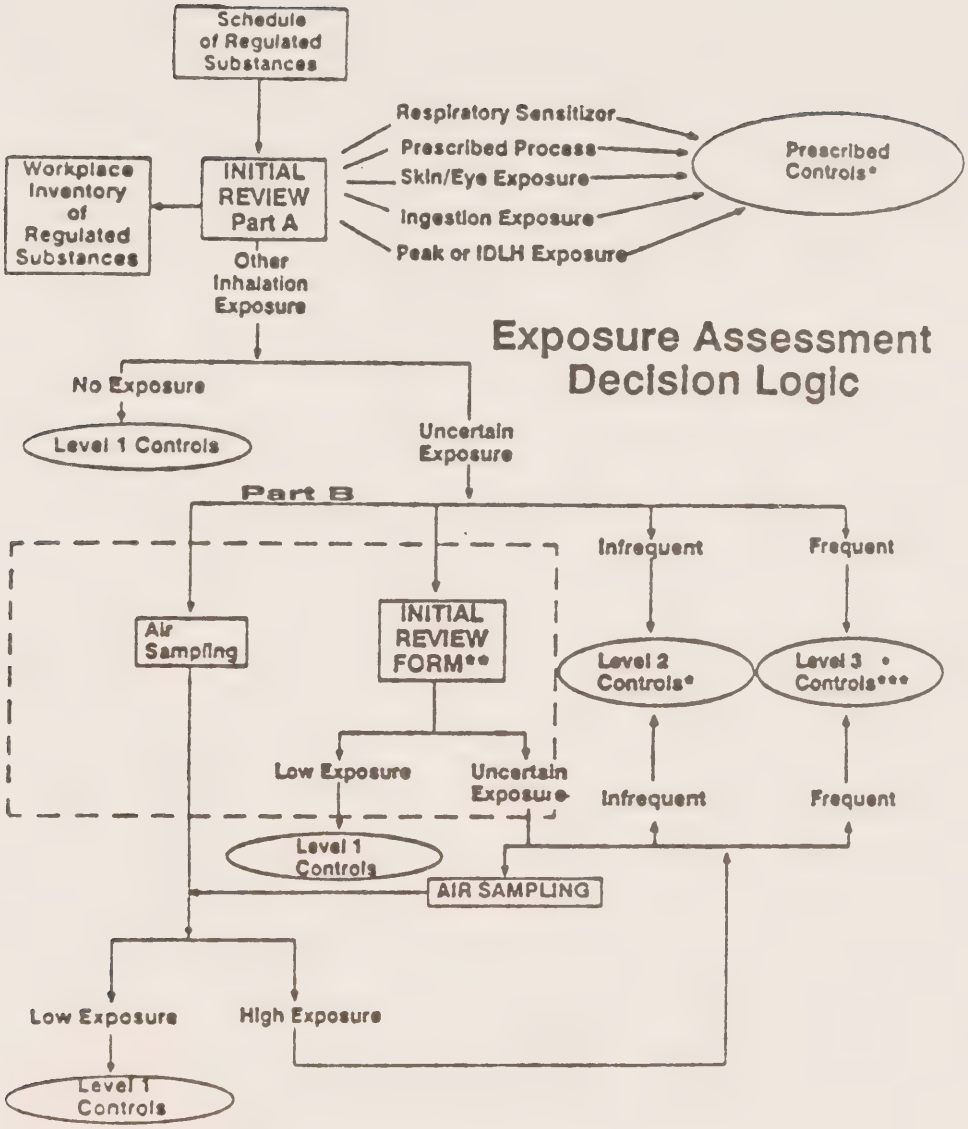
The objective of the Task Force is to create a new policy framework within which occupational health and safety regulations will be developed. Since its inception, the Task Force has been developing a new generic chemical hazard regulation. Except for three issues which required resolution by the Minister of Labour, it has been successful in reaching consensus on an overall model for this regulation. It will specify, to a much greater extent than existing chemical hazard

regulations, what employers must do to ensure that workers are protected from workplace chemical hazards. The regulation will include occupational exposure limits, to be determined by the process being developed by the Exposure Values and Limits Task Force, for a large number of substances. Employers must ensure that workers' exposures are below the prescribed limits in order to fully comply with the regulation.

The regulation has an exposure assessment process, called the initial review, that will direct employers to implement appropriate exposure controls (see Figure 2). The first step in Part A of the initial review is production of an inventory of regulated substances. Completing the remaining steps will direct the employer to implement prescribed controls for many workplace processes involving regulated substances. These include processes for which it is likely that workers will be exposed by skin contact, eye contact or ingestion to substances harmful by these exposure routes and processes with the potential for peak/Immediately Dangerous to Life or Health (IDLH) or respiratory sensitizer inhalation exposures. They also include "prescribed processes" which are processes widely known to have the potential to generate excessive inhalation exposure and for which generally recognized exposure control methods are available.

If completion of Part A indicates that there is no inhalation exposure (for other than prescribed processes, respiratory sensitizer or potential peak/IDLH exposures), employers must implement prescribed basic (Level 1) controls. If there is inhalation exposure but its level is uncertain, the employer will have the option of implementing the prescribed highest level of control (Level 2 or Level 3) depending on the frequency of worker exposure. Alternatively, the employer may conduct Part B of the initial review, a further assessment of inhalation exposure, and, based on the findings, implement the appropriate prescribed controls.

FIGURE 2



Notes:

If engineering controls are installed or existing engineering controls are modified as a result of the initial review then one time *air sampling* must be done to verify the adequacy of those controls.

**Unless a written report is provided justifying alternative and adequately protective exposure controls and the Ministry of Labour approves the variance from the prescribed controls.*

***May not be appropriate in all circumstances.
May include recent air sampling data and use of documented references.*

****Substances that fall within WHMIS toxicity classes D1A, D1B or D2A require training over and above that required for substances that fall within classes D2B or E.*

A Code of Practice for Air Sampling (to be developed by the Task Force in the Fall of 1991) incorporated into the regulation will direct employers to appropriate methods for determining the concentrations of regulated substances in the workplace air and assessing worker exposure to them. In addition, a Code of Practice for Respiratory Protection (to be developed by the Task Force) will guide employers in the selection, care and use of respirators when these devices are allowed for the protection of workers against inhalation exposure to regulated substances.

An impasse developed between the Task Force members on three issues pertaining to the regulation. The issues were then referred to the Joint Steering Committee under the Committee's terms of reference providing for such situations. When the Committee was unable to resolve these issues, they were forwarded to the Minister of Labour for resolution.

One issue was whether approval should be required from the Ministry of Labour if, based on advice from a qualified professional, an employer wishes to implement exposure controls that vary from the exposure controls specified in the regulation. The Minister decided that the regulation shall include a requirement that when an employer wishes to make a substantial variation from the prescribed exposure controls, an application must be made to the Ministry of Labour to approve the variance. Minor variances will not require Ministry approval unless the joint health and safety committee does not agree with the proposal. The Task Force may wish to develop a guideline to assist the workplace parties in determining what constitutes a substantial variance from the requirements of the regulation. Employers will be required to pay a fee to the Ministry for filing and review of the variance application.

Another issue was whether air sampling should be mandatory to verify the adequacy of engineering controls. The Minister's decision was that the regulation shall require that air sampling be carried out on a one-time basis to verify the adequacy of engineering controls installed or modified as a result of the exposure assessment process. In the case

of multiple workplaces or workstations with identical processes and controls, air sampling results from one or more may be used as a baseline measurement for the others unless the joint health and safety committee does not agree. In such circumstances, an appropriate surrogate for air sampling (e.g., face velocity of ducts, pressure drops) shall be used to ensure the effectiveness of control measures.

The third issue was whether the regulation should have:

a) a provision for the mandatory substitution of less toxic substances in place of more toxic substances;

b) a toxicity classification scheme for regulated substances other than the existing WHMIS classification scheme; or

c) a requirement for additional training of workers exposed to highly toxic substances such as carcinogens, reproductive toxins, respiratory sensitizers and neurotoxins.

The Minister rendered the following decisions:

a) The regulation will include a requirement that employers must substitute a less hazardous substance for a more hazardous substance where this is practical. The regulation shall contain the following provision based on regulations made under the Canada Labour Code:

    1) A hazardous substance shall not be used for any purpose in the workplace if it is reasonably practicable to substitute therefore a substance that is not a hazardous substance.

    2) Where a hazardous substance is required to be used for any purpose in a workplace and an equivalent substance that is less hazardous is available to be used for that purpose, the equivalent substance shall be substituted for the hazardous substance where reasonably practicable.

b) The regulation shall include a provision that worker training be provided in accordance with the toxicity of the substance. Where

> a worker is exposed to a hazardous substance which falls within WHMIS toxicity category D1A, D1B, or D2A and the exposure requires the implementation of exposure controls in accordance with the findings of the exposure assessment process or the maintenance of existing control measures to limit the exposure, the employer shall provide additional training on health consequences of exposure and the importance of work practices and engineering controls to limit exposure. The training shall be above and beyond the training required for hazardous substances that fall within WHMIS classifications D2B or E.

The Workplace Health and Safety Agency will be asked to develop a standard for the additional training required. The regulation will require employers to meet this standard.

Letters to the Task Force Co-chairs, from the Minister, outlining his decisions on the outstanding issues, are found in Appendix B.

The Task Force will finalize the elements of the control levels in the regulation in the Summer of 1991 and also develop the Codes of Practice for Air Sampling and Respiratory Protection. The Task Force hopes to publish a draft regulation for comment in the Spring of 1992. Filing of the regulation is projected for early 1993.

Exposure Values and Limits Task Force (EVLTF)

By tabling a report in September 1989 on Stage One of its mandate, this Task Force achieved its first two objectives: to evaluate the scientific basis for setting exposure values and limits based on time-weighted averages (TWAs) and to evaluate their effectiveness and appropriateness for the protection of worker health.

The remaining objective for the Task Force was to define the process and criteria for establishing exposure values and limits for hazardous substances (including biological and physical agents) in the workplace.

With respect to the third objective, the Task Force reached agreement on the following consensus documents:

(a) Application of Maximum and TWA Exposure Limits

This consensus document dated May 3, 1990, was ratified by the Joint Steering Committee (see Appendix C). It outlines,

- the basis for setting maximum limits and the health effects they would be protecting against;
- the sampling times and methodology for maximum limits; and
- the basis for setting TWA limits and the health effects they would be protecting against.

(b) Interim Process for Reviewing and Revising Occupational Exposure Limits (OELs)

This consensus document dated October 18, 1990, was ratified by the Joint Steering Committee (see Appendix D).

The interim process is summarized as follows:

- The substances and OELs in the Regulation respecting Control of Exposure to Biological or Chemical Agents, O. Reg. 654/86, will form the starting point for the interim process.
- The EVLTF will review the collected information on the existing OELs of other jurisdictions including the availability of supporting scientific information and criteria documents. Based on this review, the EVLTF will reach agreement on which substances with lower exposure limits than those in O. Reg. 654/86 should be referred to a Joint Task Force appointed by the JSC.

- An advance notice of the intent to review OELs for specific substances will be published giving the rationale.
- A notice of the review of the OELs of certain substances will be published soliciting public input including submission of comments on the socio-economic impact in Ontario and also scientific data and studies not considered in the criteria documentation.
- Following a review of the public input by the Joint Task Force, recommendations on the revision of the OELs will be made to the JSC.
- It is expected that valid proposed limits will be endorsed by the Joint Task Force unless submissions received in the public review process demonstrate significant adverse economic impact.
- The development of the revised OELs will follow the public review process defined for all regulatory proposals.

(c) Ongoing Process to Establish and Revise Occupational Exposure Limits

This consensus document dated January 21, 1991, was ratified by the Joint Steering Committee (see Appendix E).

The ongoing process is summarized as follows:

- The ongoing process consists of two parts, namely:
  - periodic update involving multiple substances to be reviewed simultaneously; and
  - review of individual substances.
- The periodic update will involve the continual collection of information by the Ministry on new and revised OELs which come into force in other specified jurisdictions.

- The list of these new and revised OELs will be presented to the JSC every two years with a view to publishing a notice of the review of the Ontario OELs for the corresponding substances and inviting public input.
- A Joint Task Force, established by the JSC, will review the public input and make the appropriate recommendations.
- The review of individual substances is a complementary process to allow for priority substances to be dealt with. Under this process, risk assessment questions would be used to derive new Ontario criteria documents.
- The development of new and revised OELs will follow the public review process defined for all regulatory proposals.

In the course of its work, the Task Force has reviewed the OELs in the Regulation respecting Control of Exposure to Biological or Chemical Agents, O. Reg. 654/86, against those in other jurisdictions. Based on this review, the Task Force is preparing a recommendation to the Joint Steering Committee that a Notice of Intent to Review Specific Occupational Exposure Limits be published in *The Ontario Gazette* and distributed to the Ministry's mailing list of interested parties. This will initiate the interim process for reviewing and revising OELs.

Biomedical Surveillance Task Force

The objective of the Task Force is to evaluate and make recommendations on the appropriateness and effectiveness of biomedical surveillance of hazardous agents as part of a regulatory program which protects the health and safety of workers.

In 1989, the members of the Task Force agreed to criteria for evaluating prescribed and proposed biomedical surveillance programs (see Appendix F). However, the Task Force recognized that the criteria were highly technical and might be difficult for the lay person to interpret and,

in some instances, difficult to apply to occupational health surveillance programs. Therefore, another document was developed by the Task Force to address these limitations. It was agreed that this second document would be used for the purposes of public distribution and that the original document would be used for authoritative interpretation (see Appendix G). This second document was approved by the Task Force members on December 18th, 1990.

It was agreed to use the criteria to evaluate several currently prescribed biomedical surveillance programs, including silica and isocyanates. Experts were asked to provide a critical evaluation of the applicability and workability of the criteria.

Using lead as a prototype, the Task Force also discussed the basic components of a biomedical surveillance program. Task Force members agreed on:

- the purpose of biomedical surveillance programs;
- the elements of a program;
- training requirements for participating workers;
- the components of a medical evaluation.

The Task Force acknowledged the right of the worker to choose his/her own examining physician. It was recognized that, to be effective, surveillance programs must facilitate workplace interventions which protect the health of the worker. It was agreed that consistency is important both in the application of the biomedical surveillance program and in the interpretation of results by the examining physician. The maintenance of confidentiality with respect to the information collected by such a program was also considered to be of the utmost importance.

The Task Force will continue to work on means of ensuring that surveillance programs achieve these goals in practice.

APPENDICES

APPENDIX A

TASK FORCE MEMBERSHIPS

MEMBERS OF THE REGULATORY FRAMEWORK AND CLASSIFICATION TASK FORCE

Mr. Chris Anderson
Dofasco Inc.

Mr. Karl Doerwald
Canadian Manufacturers' Association

Ms. Linda Jolley
Ontario Federation of Labour

Mr. Colin Lambert
Canadian Union of Public Employees

Ms. Julia McIlraith
Ontario Hospital Association

Ms. Kim Perrotta*
United Electrical, Radio and Machine Workers of Canada

Mr. Bill Sparks
Polysar Rubber Corp.

Mr. John Wilson (Chair)
Ontario Ministry of Labour

Labour Consultant
Ms. Jennifer Penney

Employer Consultant
Mr. John Murphy

*resigned 1991

MEMBERS OF THE EXPOSURE VALUES AND LIMITS TASK FORCE

Mr. Bob DeMatteo (Co-chair)
Ontario Public Service Employees Union

Mr. Glenn Weston (Co-chair)
Stelco Inc.

Mr. Dan Ublansky
Energy and Chemical Workers Union

Mr. Bruce Waechter
Ford Motor Company of Canada Limited

Dr. Roland Hosein
General Electric Canada Inc.

Mr. Colin Lambert
Canadian Union of Public Employees

Mr. David Gaylor
I C I Inc.

Ministry of Labour Representatives
Dr. Jim Stopps*
Dr. Shal Gewurtz**

Labour Consultant
Ms. Jennifer Penney

Employer Consultant
Mr. John Murphy

* retired February 1991

**appointed February 1991

MEMBERS OF THE TASK FORCE ON BIOMEDICAL SURVEILLANCE

Labour Members

Ms. Linda Jolley
Ontario Federation of Labour

Mr. Norm Carriere
United Steel Workers of America

Mr. John Lang
The Confederation of Canadian Unions

Mr. Tim Millard (Chair)
Ontario Ministry of Labour

Dr. Albert Cecutti
Falconbridge Limited

Employer Members

Ms. Mary Roy
CCL Industries Inc.

Mr. Bill Williams

Ms. Cathi Carr*
Ontario Nurses' Association

Dr. Ian Arnold**
Dow Chemical Canada Inc.

Facilitator
Dr. Tess McGrath
Ontario Ministry of Labour

Labour Consultant
Ms. Jennifer Penney

Employer Consultant
Mr. John Murphy

*resigned 1991
**appointed 1990

APPENDIX B

March 25, 1991 Letters from the Minister to the Regulatory Framework and Classification Task Force Co-chairs

Ontario Ministry of Labour
Ministère du Travail de l'Ontario

Office of the Minister
Bureau du Ministre

400 University Avenue
Toronto, Ontario
M7A 1T7
416/965-4101

March 25, 1991

Ms. Linda Jolley
Ontario Federation of Labour
Don Mills, Ontario
M3C 1Y8

Dear Linda:

I am writing further to our meeting on March 22, 1991 and your subsequent telephone conversation with John Wilson on March 25, 1991 regarding the three issues from the Regulatory Framework and Classification Task Force where the labour and employer members were not able to reach a consensus.

Attached is my decision and rationale for each of the three issues. I understand consensus has been reached at the Task Force on many other issues and appreciate the very hard work done by the members over the past two to three years.

I trust that all members of the Task Force will continue to strive for consensus on the remaining issues. I look forward to receiving the final recommendations for a generic chemical hazard regulation from the Joint Steering Committee.

Yours sincerely,

Bob Mackenzie
MPP Hamilton East
Minister

Attach.

cc: Tim Millard, Chair, Joint
Steering Committee on Hazardous
Substances in the Workplace

Ontario Ministry of Labour
Ministère du Travail de l'Ontario

Office of the Minister
Bureau du Ministre

400 University Avenue
Toronto, Ontario
M7A 1T7
416/965-4101

March 25, 1991

Mr. Karl Doerwald
267 Poole Drive
Oakville, Ontario
L6H 3W3

Dear Karl:

I am writing further to our meeting on March 22, 1991 and your subsequent telephone conversation with John Wilson on March 25, 1991 regarding the three issues from the Regulatory Framework and Classification Task Force where the labour and employer members were not able to reach a consensus.

Attached is my decision and rationale for each of the three issues. I understand consensus has been reached at the Task Force on many other issues and appreciate the very hard work done by the members over the past two to three years.

I trust that all members of the Task Force will continue to strive for consensus on the remaining issues. I look forward to receiving the final recommendations for a generic chemical hazard regulation from the Joint Steering Committee.

Yours sincerely,

Bob Mackenzie
MPP Hamilton East
Minister

Attach.

cc: Tim Millard, Chair, Joint
Steering Committee on Hazardous
Substances in the Workplace

March 25, 1991

TITLE: Minister of Labour Decision Regarding the Initial Review

ISSUE: Whether air sampling should be mandatory to verify the adequacy of exposure controls

DECISION: The regulation shall require that air sampling be carried out on a one-time basis to verify the adequacy of engineering controls installed or modified as a result of the initial review.

In the case of multiple workplaces or work stations with identical processes and controls, air sampling results from one or more may be used as a baseline measurement for the others unless the JHSC does not agree. In such circumstances, an appropriate surrogate for air sampling (e.g. smoke tubes) shall be used to ensure the effectiveness of control measures.

The joint Task Force may wish to develop guidelines to deal with situations such as minor changes to engineering controls and multiple workplaces/ workstations.

RATIONALE: It is crucial that workers have some concrete measure of the effectiveness of engineering controls so that they are assured that they are being protected. Given this basic principle, it is however, not reasonable to require that air sampling be carried out for minor changes to controls or for every worker at every workplace/workstation where adequate and appropriate air sampling data exists for identical processes and controls.

March 25, 1991

TITLE: Minister of Labour Decision Regarding the Role of Professional Judgement

ISSUE: Whether approval should be required from the Ministry of Labour if, based on advice from a qualified professional, an employer wishes to implement exposure controls that vary from the exposure controls specified in the regulation.

DECISION: The regulation shall include a requirement that when an employer wishes to make a substantial variation from the prescribed exposure controls, an application must be made to the Ministry of Labour to approve the variance. Minor variances will not require Ministry approval unless the JHSC does not approve the proposal. The joint Task Force may wish to develop a guideline to assist the workplace parties in determining what constitutes a substantial variance from the requirements of the regulation.

Employers will be required to pay a fee to the Ministry for filing and review of the variance application.

RATIONALE: Many employers (probably the majority) will not seek a variance from the regulation. This is especially true of small business.

Where variances are desired, it is not likely that even certified members of joint committees will have the required knowledge to judge the merits of the employer proposal. There is a real risk that leaving the review of variance proposals up to committees will involve the Ministry in increasingly hostile situations.

On the other hand, where an employer proposes only a minor (perhaps strictly a technicality) variance, the workplace parties should be capable of reaching agreement. Minor variances may also include work practices or administrative controls in addition to or in place of some aspect of a prescribed engineering control.

The Ministry currently charges a fee for the review of engineering drawings in the industrial sector and is instituting fee-for-service provisions for laboratory analysis and for certain medical services. This decision is merely an extension of this policy.

engineering controls to limit exposure. The training shall be above and beyond the training required for hazardous substances that fall within WHMIS classification D2B or E.

The Workplace Health and Safety Agency will be asked to develop a training standard for the additional training. The regulation will require employers to meet this standard.

RATIONALE:

The requirement for substitution is based on the conceptual rule that both parties agreed to early on in the life of the Joint Steering Committee and the Task Force:

> "The degree of control exercised over a substance in the workplace will increase with the degree of health effect of that substance, recognizing that this approach will have the result of encouraging employers to use substances with the least effect."

Such provisions already exist in the Canada Labour Code and in Québec and Newfoundland.

It is crucial that workers understand the more devastating health consequences of exposure to substances that can cause cancer, reproductive effects, lung sensitization and neurotoxic effects and that they understand the need, therefore, to maintain necessary controls. The additional training requirement should ensure that these needs are met.

It is important that Ontario stay within the scheme of hazard classifications set out in the WHMIS regulations and not establish a duplicate and possibly contradictory scheme for Ontario.

March 25, 1991

TITLE: Minister of Labour Decision Regarding Toxicity Classification and Control Program Levels

ISSUE: Whether the regulation should have:

a) a provision for the mandatory substitution of less toxic substances in place of more toxic substances;

b) a toxicity classification scheme for regulated substances other than the existing WHMIS scheme; or

c) a requirement for additional training for workers exposed to highly toxic substances such as carcinogens, reproductive toxins, lung sensitizers and neurotoxins.

DECISION: a) The regulation will include a requirement that employers must substitute a less hazardous substance for a more hazardous substance where this is practical. The regulation shall contain the following provision:

1) A hazardous substance shall not be used for any purpose in a workplace if it is reasonably practicable to substitute therefore a substance that is not a hazardous substance.

2) Where a hazardous substance is required to be used for any purpose in a workplace and an equivalent substance that is less hazardous is available to be used for that purpose, the equivalent substance shall be substituted for the hazardous substance where reasonably practicable.

b) The regulation shall include a provision that worker training be provided in accordance with the toxicity of the substance. Where a worker is exposed to a hazardous substance which falls within WHMIS toxicity category D1A, D1B or D2A and the exposure requires the implementation of exposure controls in accordance with the findings of the initial review or the maintenance of existing control measures to limit the exposure, the employer shall provide additional training on health consequences of exposure and the importance of work practices and

APPENDIX C

CONSENSUS DOCUMENT
ON
THE APPLICATION OF MAXIMUM AND TWA
EXPOSURE LIMITS

APPLICATION OF MAXIMUM AND TWA EXPOSURE LIMITS

May 3, 1990

Proposal by the Exposure Values and Limits Task Force to Joint Steering Committee on Hazardous Substances in the Workplace

1. Basis for Setting Maximum Limits and the Health Effects They Would be Protecting Against

The HSRU*/Consultant shall consider all available evidence and ascertain whether, based on the evidence, there are adverse health effects that are probably caused by peak exposures.

a) If "Yes", the Joint Task Force will set a maximum or ceiling limit to protect against all such effects.

b) If "No", the Joint Task Force will set a maximum or ceiling limit to control peak exposures according to good industrial hygiene practice.

2. Sampling Times and Methodology for Maximum Limits

a) Where based on the evidence, there are adverse health effects that are probably caused by peak exposures, minimum sampling times would be employed based on the best available technology which is accurate in the concentration range of the exposure limit and practical for widespread field use in Ontario.

b) Where based on the evidence, there probably are not adverse health effects caused by peak exposures, sampling times would be employed using technology which is practical for widespread field use in ontario, accurate in the concentration range of the exposure limit, and with a view to reducing the sampling period to 15 minutes.

3. Basis for Setting TWA Limits and the Health Effects they would be Protecting Against

The HSRU/Consultant shall consider all available evidence and ascertain whether, based on the evidence, there are adverse health effects that are probably caused by total or cumulative exposure (i.e. CXT).

a) If "yes" the Joint Task Force will set a TWA limit to protect against those effects and with a view to minimize accumulation of the substance in the body.

b) If "no", the Joint Task Force will not set a TWA limit.

As a result of a reorganization on February 15, 1990, the Program Development Unit (PDU) has been changed to Health and Safety Regulations Unit (HSRU)

APPENDIX D

CONSENSUS DOCUMENT

ON

THE INTERIM PROCESS FOR REVIEWING AND REVISING OCCUPATIONAL EXPOSURE LIMITS (OELs)

CONSENSUS DOCUMENT
RESPECTING THE INTERIM PROCESS FOR
REVIEWING & REVISING OCCUPATIONAL EXPOSURE LIMITS

The Exposure Values and Limits Task Force (EVLTF) position on exposure limits is to use Regulation 654/86 as a starting point and to develop an efficient review process to change any limits where there is joint agreement to do so. The Ministry of Labour has finite resources and can produce a limited number of in-depth exposure limit criteria documents each year. We therefore conclude that an expedited process which includes examination of the scientific review process, criteria documents and resulting regulated limits from other jurisdictions has merit. To this end the Task Force recommends the following process.

The EVLTF has requested the Ministry to obtain and collate existing occupational exposure limits from other jurisdictions and to indicate the availability of supporting scientific information and criteria documents.

It is proposed that the EVLTF review this listing and reach agreement on which substances with lower exposure limits than currently exist in Ontario should be referred to a Joint Task Force. This Joint Task Force would be appointed by the Joint Steering Committee (JSC) for the purpose of making recommendations to the JSC on the amendment of these limits.

An essential part of this process would involve soliciting public input to the Task Force on the proposed recommendations. Notice would be published indicating which substances were being considered, the rationale for reviewing these substances, the proposed limits and which criteria documents from other jurisdictions were available for review. This process would encourage submission of comment on the socio-economic impact in Ontario and also scientific data and studies not considered in the criteria documentation. The process is outlined in the flow chart in Attachment 1 and would complement the existing agreed upon regulation development process.

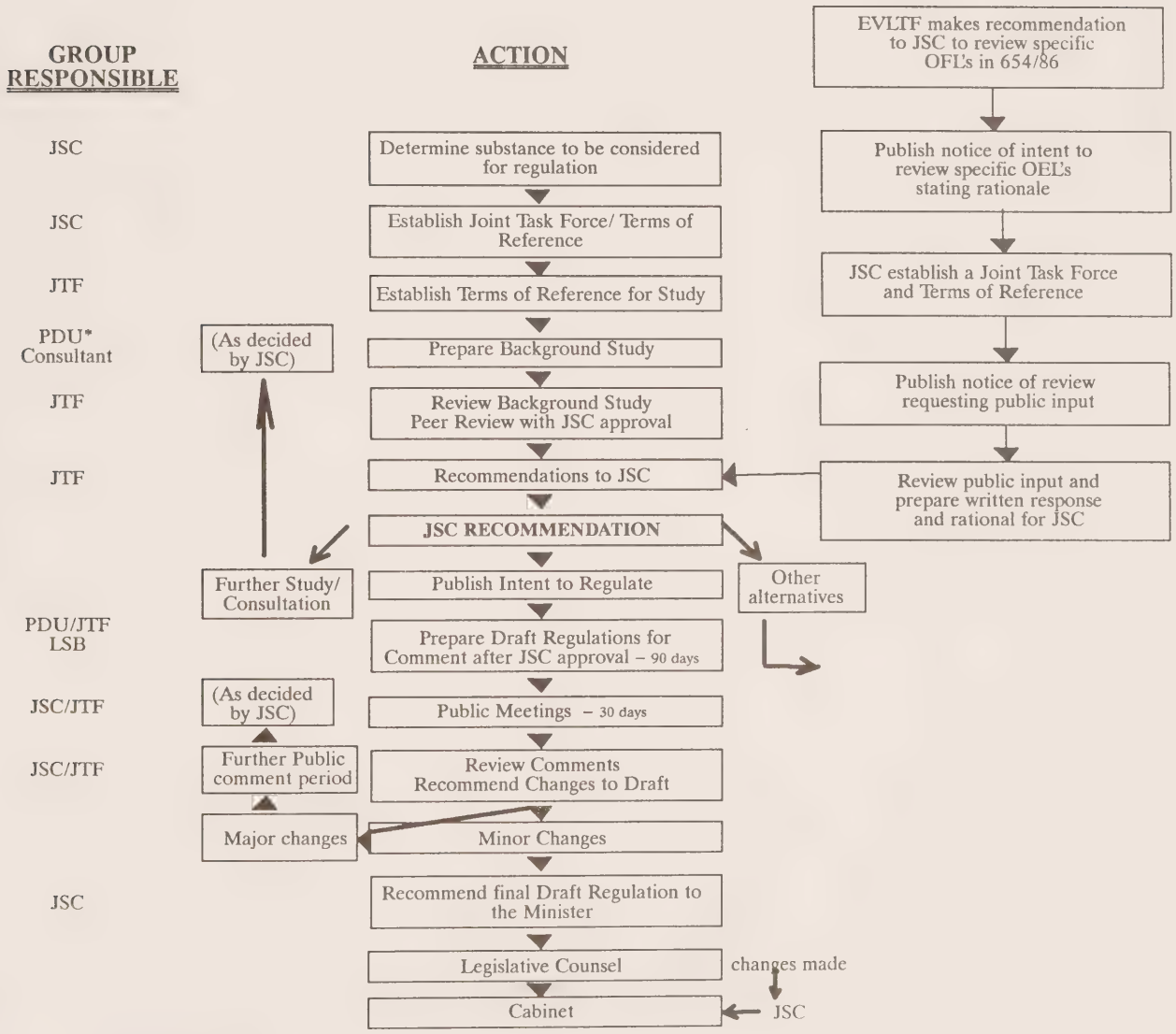
It is expected that valid proposed limits would be endorsed by the Joint Task Force unless submissions received in the public review process demonstrate significant adverse economic impact.

After consideration of public input, the Joint Task Force would prepare for the JSC, a report on the rationale and response to the public comments for recommended amendments, and this would be published.

October 18, 1990

Attachment 1

JOINT STEERING COMMITTEE ON HAZARDOUS SUBSTANCES REGULATION DEVELOPMENT PROCESS - REVISED



JSC - Joint Steering Committee
JTF - Joint Task Force
PDU* - Program Development Unit
LSB - Legal Services Branch

*On February 5, 1990 PDU was renamed the Health and Safety Regulations Unit

APPENDIX E

CONSENSUS DOCUMENT

ON

THE ONGOING PROCESS TO ESTABLISH

AND REVISE

OCCUPATIONAL EXPOSURE LIMITS (OELs)

ONGOING PROCESS TO ESTABLISH AND REVISE OCCUPATIONAL EXPOSURE LIMITS

Consensus Document
Exposure Values and Limits Task Force
Joint Steering Committee on Hazardous Substances in the Workplace
January 21, 1991

Introduction

The Joint Steering Committee (JSC) has a mandate to review and make recommendations on new or revised occupational exposure limits for hazardous substances. In order to keep occupational exposure limits (OELs) in Ontario up to date, the Exposure Values and Limits Task Force (EVLTF) recommends the following ongoing processes.

Periodic Update, Involving Multiple Substances to be Reviewed Simultaneously

A process for periodic consideration of a number of substances is proposed. This process will help streamline the difficult task of updating OELs for substances already regulated, without requiring undue expense in time and resources that a substance-by-substance review would take.

1. The JSC would request the Ministry to obtain and collate new or revised OELs which have come into force in other specified jurisdictions as an ongoing activity. Documentation supporting these limits will also be obtained and collated.

2. The JSC would also request the Ministry to monitor processes in various jurisdictions for deriving OELs, in order to determine if the following conditions are met:

   - a reasonably thorough review of the scientific literature occurs in the process of establishing or revising OELs; and

   - labour and employers are involved in reviewing and establishing OELs.

   The JSC would decide whether any additional jurisdictions meeting the conditions should be added to the list of specified jurisdictions, or any no longer meeting the conditions be deleted.

3. Every two years, the Ministry would provide to the JSC a list of new or revised OELs which have come into force, along with scientific documentation from specified jurisdictions where the above conditions are met.

4. An announcement would be prepared about the intent to review OELs for this list of substances, indicating the rationale and noting the scientific documentation available for review. On agreement of the JSC, the announcement would be issued by the Ministry.

5. The JSC would appoint a Joint Task Force (JTF) to review the list and documentation and will define the JTF terms of reference. The JSC may decide that it is appropriate to appoint more than one Task Force to review different substances.

6. Following its review, the JTF would request the JSC and the Ministry of Labour to publish notice of intent to review a list of OELs, inviting written submissions within 90 days, or a more extended period to which the task force agrees. This process would encourage comment on the socio-economic impact of new OELs in Ontario, and on scientific data and studies not considered in the documentation. The process is outlined in Attachment 1.

7. The JTF will receive and review written submissions and make recommendations to the JSC with respect to appropriate action for the substances under consideration.

8. Following receipt of these recommendations, the JSC will proceed as outlined in Attachment 1.

Review of Individual Substances

In addition to the process outlined above, some provision must be made for individual review of priority substances identified by the JSC.

Among the factors which may be considered in setting priorities for individual substance review are the following:

- though present in Ontario workplaces, the substance has not previously been regulated in the province;
- the substance is not under review in any of the specified jurisdictions, and the scientific documentation on which the current limit is based is inadequate;
- new health information has been made available, and indicates the necessity to review existing limits or set new occupational exposure limits.

1. The JSC would prepare a list of substances for review, and set priorities and a timetable for reviewing them. The JSC would periodically review and amend this list.

2. An announcement would be prepared about the intent to review or develop OELs for this list of substances, indicating the rationale. On agreement of the JSC, the announcement would be issued by the Ministry.

3. The JSC would appoint a JTF to oversee the review of an individual substance or substances and define terms of reference.

4. The Ministry would obtain and collate scientific information on these substances, including documentation of exposure limits in other jurisdictions, if available. The Ministry would use agreed risk assessment questions (Attachment 2) to review and assess existing criteria documents, and would prepare a report for the JTF, identifying areas where the documents need reassessment or additional information in order to prepare Ontario documentation. The JTF would consider the Ministry report and key documents, and would determine the need for a study, and prepare Terms of Reference outlining the type and scope of a study deemed necessary. The JTF would request the study from the Health and Safety Regulations Unit (HSRU), or a consultant.

   For those substances where criteria documents are inadequate or do not exist, a full background study will be carried out and an Ontario criteria document developed by the HSRU/Consultant.

   The agreed risk assessment questions will be used to guide the investigations and report. Such studies will be carried out by individuals with expertise and experience in the relevant disciplines (e.g. toxicology, epidemiology, occupational hygiene, occupational medicine). In general, the HSRU/Consultant will be asked to explain their approach in reaching conclusions, why the particular approaches were selected, and what uncertainties exist.

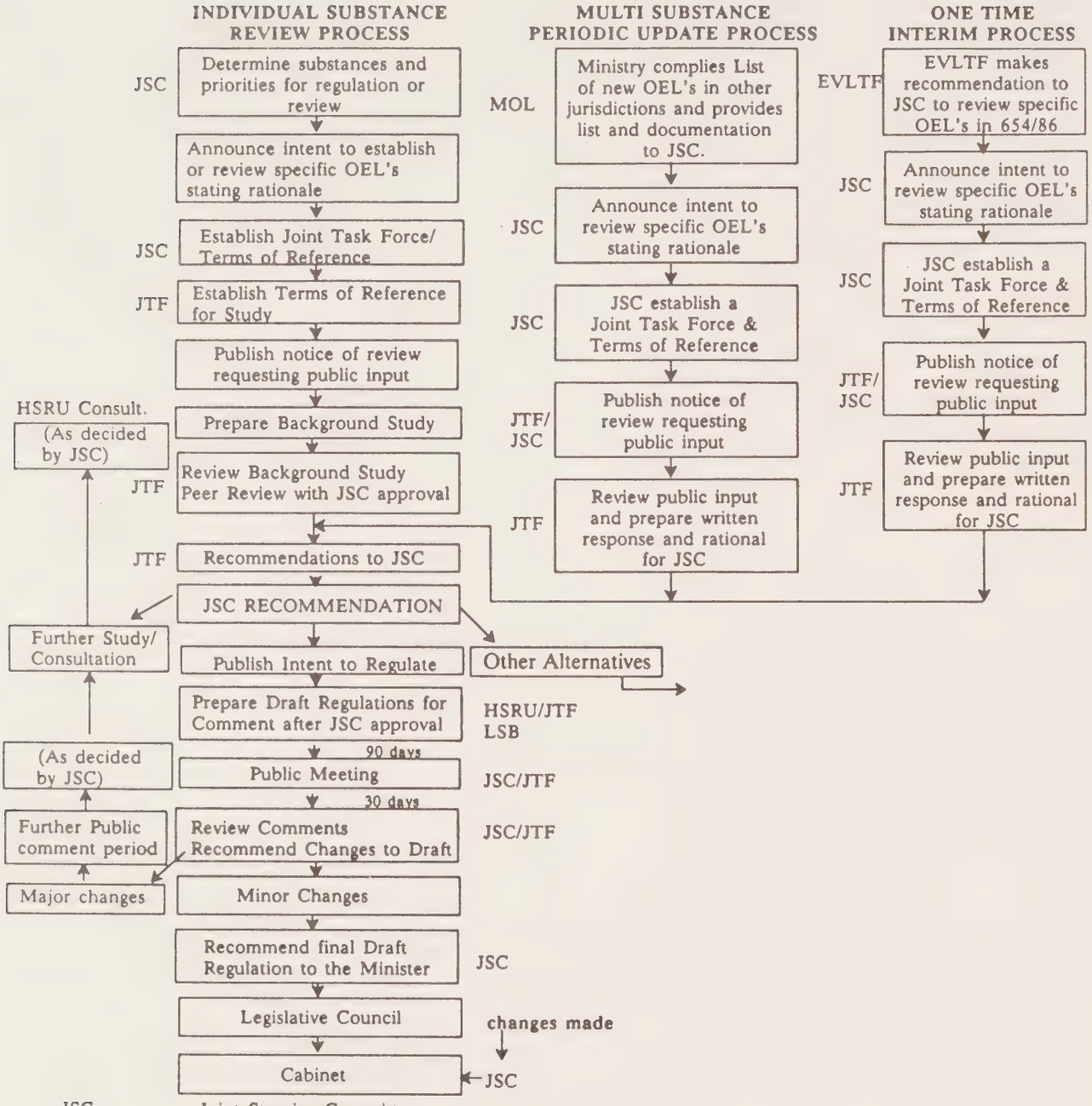
5. Following preparation of the Terms of Reference for the study, the JTF would request the JSC and Ministry to publish notice of intent to set the OEL or OELs, inviting written submissions within 90 days or a more extended period to which the task force agrees.

6. When the study is complete, a review of the Ministry report, supporting scientific information, criteria document(s) and public input would be conducted by the Joint Task Force(s) which would recommend appropriate OELs and prepare report(s) on the rationale including response to public comments to the JSC for publication.

(Slight revisions are recommended to the Flow Chart originally approved by the Joint Steering Committee, describing the process of arriving at a new exposure limit. See Attachment 1.)

ATTACHMENT 1

JOINT STEERING COMMITTEE ON HAZARDOUS SUBSTANCES
OEL DEVELOPMENT PROCESS
(REVISED) DEC. 14/90



JSC – Joint Steering Committee
JTF – Joint Task Force
PDU* – Program Development Unit
LSB – Legal Services Branch

* On February 5, 1990 PDU was renamed the Health and Safety Regulations Unit (HSRU)

Attachment 2

QUESTIONS TO GUIDE RISK ASSESSMENT AND DEVELOPMENT OF ONTARIO CRITERIA DOCUMENTS

The questions below are intended to guide scientists employed by the Ministry of Labour in the risk assessment process leading to the development of a criteria document and the proposal of an occupational exposure limit.

A. SUBSTANCE IDENTIFICATION AND EXPOSURE

1) What are the basic CHARACTERISTICS of the substance?

- Physico-chemical properties
- Identification of chemical
- Chemical and molecular formula, etc.
- Other characteristics

2) How is the substance IDENTIFIED and MEASURED in the occupational environment?

- Occupational/personal and/or environmental monitoring
- Analytical methods

3) What are the SOURCES and ESTIMATED LEVELS OF EXPOSURE in the environment and workplace?

- Natural occurrence
- Exposures resulting from human activities
- Production and uses
- Environmental levels
- Occupational levels

B. HAZARD IDENTIFICATION

1) What are the TOXICOKINETICS of the substance? (How is it absorbed, distributed, biotransformed, and eliminated by the body?)

2) What is the evidence for TOXIC EFFECTS of the substance?

- Animal studies
- Short-term tests
- Human evidence
- Information will include exposure routes, level, duration and frequency, as well as types of effects, as indicated by the ECG proposal
- Types of effects

3) Based on the evidence, are there adverse health effects which are probably caused by PEAK EXPOSURES?

4) Based on the evidence, are there adverse effects that are probably caused by TOTAL OR CUMULATIVE EXPOSURE?

5) What is/are the CRITICAL TOXIC EFFECT(S) of the substance?

- Local effects
- Systemic toxicity

C. DOSE-RESPONSE ANALYSIS AND RISK ESTIMATION

1) What are the PEAK EXPOSURE LEVELS that probably produce effects?

- No observable effect level
- Lowest observable effect level
- No observable adverse effect level
- Lowest observable adverse effect level
- Other information

2) What are the TOTAL OR CUMULATIVE EXPOSURE LEVELS that probably produce effects?

- No observable effect level
- Lowest observable effect level
- No observable adverse effect level
- Lowest observable adverse effect level
- Other information

3) What types of UNCERTAINTY (SAFETY) FACTORS must be built in because of uncertainty in experimental and other evidence?

- Extrapolation from lowest observable effect level to no observable effect level
- Extrapolation from high to low dose
- Extrapolation from animals to humans
- Protection for normal human variability in the population
- Other concerns

4) For QUANTITATIVE RISK ASSESSMENT, what methods were used and why are these methods appropriate?

5) If animal data has been used, what EXTRAPOLATION factors were considered?

- Body size scaling
- Pharmacokinetic rate
- Other factors
- Exposure regimens
- Species sensitivity

D. DATA QUALITY AND UNCERTAINTIES

1) What is the QUALITY OF EVIDENCE of the KEY STUDIES reviewed for this assessment?

- Technical adequacy
- Weight of evidence (research design, bias, confounding factors, chance)
- Availability of exposure level data/confidence in estimated data
- Repeatability of studies
- Reliability of data

2) What UNCERTAINTIES exist in characterization of the substance as an occupational hazard and establishing an exposure limit?

- Conflicting evidence
- Reliance on animal studies
- Biological relevance of data
- Relevance of route of exposure, target organ
- High-to-low dose extrapolation
- Other factors

3) What SPECIFIC RECOMMENDATIONS FOR RESEARCH are made to reduce uncertainty in future assessments of this substance?

E. EVALUATION OF HUMAN HEALTH RISKS

1) What are the GROUPS AT RISK as a result of exposure to the substance?

- Occupational groups
- Particularly susceptible populations (e.g. workers of childbearing age, asthmatics, etc.)

2) What OTHER CONSIDERATIONS apply?

- Synergism and mixtures
- Length of work-shift
- Other

3) What recommendation is made with respect to a SKIN NOTATION (indicating potential for absorption, or skin effects)?

4) What recommendation is made with respect to protection against INGESTION of the substance?

F. REFERENCES

APPENDIX F

CRITERIA FOR EVALUATION OF VALIDITY OF SURVEILLANCE PROGRAM

CRITERIA FOR EVALUATION OF VALIDITY OF SURVEILLANCE PROGRAMME.

Biomedical Surveillance Task Force, May, 23,1989

Review and discussion of the appropriateness of adopting the ACOHOS criteria and/or the WHO criteria, keeping in mind the "purpose" as defined in the November 18th, 1988, minutes, led to the formulation of the following criteria. It was agreed that these would be reviewed by all members and that there would be an opportunity for revision prior to finalization.

1. The intervention in question (i.e. the preventive or therapeutic action) must not simply advance the point in time at which the diagnosis of disease occurs, but must also improve survival or function or both. Claims for effectiveness must be supported by experimental evidence (such as that obtained from randomized control trials) and must withstand rigorous methodological scrutiny.

2. The state of science must be sufficient to ensure diagnostic confirmation among those whose screening is positive.

3. The sensitivity and specificity of the procedure must be known.

4. The levels of a contaminant measured in blood, urine or exhaled air, for example, or the measurements of metabolites or biological changes that result from the absorption of the contaminant, should reflect a quantitative relationship with a health effect.

5. The test should have the ability to detect subclinical effects caused by exposure to a workplace agent.

6. Where possible, the deviation of the test data from normal values should increase quickly with the intensity and/or duration of exposure.

7. The effectiveness of potential individual components of a multiphasic surveillance programme should meet the established criteria before being offered in combination.

8. The test or intervention should not carry an unreasonable risk to health and should be the least invasive for the worker involved.

9. Health benefits from surveillance must outweigh the known health risks involved with the tests.

10. The beneficial effects of a surveillance programme must outweigh the negative effects including the possible labelling of an individual as diseased or at high risk.

APPENDIX G

CRITERIA FOR EVALUATION OF BIOMEDICAL SURVEILLANCE PROGRAM

(revised December 18, 1990)

CRITERIA FOR EVALUATION OF BIOMEDICAL SURVEILLANCE PROGRAM
Revised December 18, 1990

Biomedical Surveillance Task Force
Joint Steering Committee on Hazardous Substances in the Workplace

Criteria for Evaluating Individual Elements

1. Is the test result strongly correlated with a true adverse health effect?

2. Does the test identify changes (subclinical effects) before a clinical problem (disease) has developed?

3. Is the result reproducible? (A protocol for carrying out tests should be described in sufficient detail to permit their replication.)

4. Do test results deviate from normal values quickly in response to changes in the intensity and/or duration of exposure?

5. Does the test carry unreasonable physical risk to health? Is it as non-invasive as possible?

Criteria for Evaluating Combined Elements

If no one test element adequately reflects adverse changes in the true health state of the worker (i.e. there's no "gold standard" for toxicity) then a biomedical surveillance program may have multiple elements. Guidelines for interpreting the combined results of a program with multiple elements should be developed and provided to the examining physician.

6. Does each element meet 1,3, and 5 and, if possible, 2 and 4 above?

7. Do the combined results from individual elements meet criteria 1 to 5?

Criteria for Evaluating Preventive Actions (Interventions)

Actions include work restrictions up to and including medical removal, and control programs undertaken in the workplace to decrease exposure levels.

8. Do preventive actions taken as a result of test results improve survival or function or both in workers involved in the surveillance? (Claims for effectiveness should be supported by evidence from rigorous evaluations.)
9. Do health benefits from the surveillance program as a whole outweigh the known health risks involved with the tests?

10. Do the beneficial effects of the surveillance program outweigh negative psychological, economic or social effects, including the possible labelling of an individual as diseased or at high risk?